

METHOD AND APPARATUS  
FOR IMPLEMENTING WAVELET FILTERS IN A DIGITAL SYSTEM

ABSTRACT OF THE DISCLOSURE

5           A digital data system (100) provides 1-D, 2-D and 3-D capability and multi-band  
channel capability. Improved filter banks are created by generating a filter bank having an  
analysis portion and synthesis portion and obtaining wavelet coefficients (302) for each  
portion. The wavelet coefficients are expressed in a format capable of canonical signed  
digit (CSD) representation, such as integers (302). The canonical signed digit (CSD)  
10 representation is controlled by a value, N, selected to control resolution of the CSD  
coding. Optimized CSD-coded wavelet coefficients are used as filters for data signals  
(318).